Environment Canada Environnement Canada
00160911K DEST PVM EXCH COPY 03
SD 391 C365
VOL ISS 250
NORTHERN FOREST RESEARCH CENTRE. INFORMATION REPORT NOR-X

Bibliography of western gall rust

P. Têtu-Bernier, E. Allen, and Y. Hiratsuka

Information Report NOR-X-250
Northern Forest Research Centre

BIBLIOGRAPHY

OF

WESTERN GALL RUST

P. TETU-BERNIER, E. ALLEN, AND Y. HIRATSUKA

INFORMATION REPORT NOR-X-250

NORTHERN FOREST RESEARCH CENTRE
CANADIAN FORESTRY SERVICE
EDMONTON, ALBERTA

©Minister of Supply and Services Canada 1983
Catalogue No. Fo46-12/250E
ISBN 0-662-12712-9
ISSN 0704-7673

This publication is available at no charge from:

Northern Forest Research Centre
Canadian Forestry Service
Environment Canada
5320 - 122 Street
Edmonton, Alberta
T6H 3S5

Têtu-Bernier, P.; Allen, E.; Hiratsuka, Y. 1983. Bibliography of western gall rust. Environ. Can., Can. For. Serv., North. For. Res. Cent. Edmonton, Alberta. Inf. Rep. NOR-X-250.

ABSTRACT

A comprehensive list of published reports on western gall rust, *Endocronartium harknessii*, is presented.

RESUME

Ce document présente une liste détaillée des rapports publiés sur la rouille-tumeur de l'Ouest (*Endocronartium harknessii*).

CONTENTS

	Page
INTRODUCTION	1
BIBLIOGRAPHY OF WESTERN GALL RUST	2
ACKNOWLEDGMENTS	10

INTRODUCTION

This comprehensive list of published reports on western gall rust has been prepared as part of a research project entitled *Western gall rust studies in relation to the genetic improvement program of lodgepole pine.* This project has been supported partly by a fund made available to the University of Alberta by the Alberta Department of Energy and Natural Resources.

Anderson, G.W. 1965. The distribution of eastern and western gall rusts in the Lake states. Plant Dis. Rep. 49:527-529.

Anderson, G.W. 1968. The occurrence of eastern and western gall rust on a single jack pine tree. Plant. Dis. Rep. 52:328-329.

Anderson, G.W.; French, D.W. 1965a. Differentiation of *Cronartium quercuum* and *Cronartium coleosporioides* on the basis of aeciospore germ tubes. Phytopathology 55:171-173.

Anderson, G.W.; French, D.W. 1965b. Western gall rust in the Lake States. For. Sci. 11:139-141.

Anderson, N.A. 1970. Eastern gall rust. USDA For. Serv., For. Pest Leafl. 80. 4 p.

Anderson, N.A.; Anderson, R.L. 1965. The susceptibility of jack pine and lodgepole pine and their hybrids to sweetfern rust and eastern gall rust. USDA For. Serv., Res. Note LS-56. 4 p.

Arthur, J.C. 1929. The plant rusts (Uredinales). J. Wiley and Sons, Inc., New York. 446 p.

Arthur, J.C. 1934. Manual of the rusts in the United States and Canada. Purdue Res. Found., Lafayette, Indiana. 438 p.

Arthur, J.C. 1962. Manual of the rusts in the United States and Canada. Hafner Publ. Co., New York. 438 p.

Arthur, J.C.; Kern, F.D. 1906. North American species of *Peridermium*. Bull. Torrey Bot. Club 33:403-438.

Baranyay, J.A.; Stevenson, G.R. 1964. Mortality caused by *Armillaria* root rot, *Peridermium* rusts, and other destructive agents in lodgepole pine regeneration. For. Chron. 40:350-361.

Bergdahl, D.R.; French, D.W. 1975. *Endocronartium harknessii* (gall rust) on *Pinus mugo* in Minnesota. Plant Dis. Rep. 59:433-434.

Bergdahl, D.R.; French, D.W. 1978. Occurrence of *Tuberculina maxima* on *Cronartium* and *Endocronartium* rusts in Manitoba. Plant Dis. Rep. 62:811-812.

Boyce, J.S. 1943. Host relationships and distribution of conifer rusts in the United States and Canada. Trans. Conn. Acad. Arts Sci. 35:329-482.

Boyce, J.S. 1957. The fungus causing western gall rust and Woodgate rust of pines. For. Sci. 3:225-234.

Byler, J.W. 1970. Non-rust fungi associated with galls caused by *Peridermium harknessii*. Ph.D. thesis, Univ. Calif., Berkeley, Calif. 81 p.

Byler, J.W.; Cobb, F.W., Jr. 1969. Fungi associated with galls caused by *Peridermium harknessii*. Abstr. in Phytopathology 59:1020.

Byler, J.W.; Cobb, F.W., Jr.; Parmeter, J.R., Jr. 1972a. Effects of secondary fungi on the epidemiology of western gall rust. Can. J. Bot. 50:1061-1066.

Byler, J.W.; Cobb, F.W., Jr.; Parmeter, J.R., Jr. 1972b. Occurrence and significance of fungi inhabiting galls caused by *Peridermium harknessii*. Can. J. Bot. 50:1275-1282.

Byler, J.W.; Platt, W.D. 1972. Cone infection by *Peridermium harknessii*. Can. J. Bot. 50:1429-1430.

Carlson, L.W. 1969. Western gall rust on jack pine nursery stock in Manitoba. Plant Dis. Rep. 53:100.

Christenson, J.A. 1968. A cytological comparison of germinating aeciospores in the *Cronartium coleosporioides* complex. Mycologia 60:1169-1177.

Christenson, J.A. 1969. Cytology of albino *Peridermium harknessii*. Mycologia 61:398-401.

Commonwealth Mycological Institute. 1969. CMI distribution maps of plant diseases. Kew, England.

Dahms, W.G. 1965. Rust cankers, a threat to central Oregon lodgepole pine? USDA For. Serv., Res. Note PNW-20. 3 p.

Fromme, F.D. 1916. Facultative heteroecism (?) of *Peridermium harknessii* and *Cronartium quercuum*. Phytopathology 6:411- 412.

Gier, L.J. 1934. Study of *Peridermium* galls on western yellow pine. Trans. Kansas Acad. Sci. 37:75-76.

Gilden, E.E. 1968. What's happening in California forestry? California Christmas tree market - 1968. Agric. Ext. Serv., Univ. Calif., Berkeley, Calif.

Gill, L.S. 1925. *Peridermium harknessii* J.P Moore in western yellow pine tops. Phytopathology 15:615.

Gremmen, J. 1964. Stem diseases of conifers caused by rust fungi. FAO Forpest 64. 15 p.

Harkness, H.W. 1884. New species of Californian fungi. Calif. Acad. Sci. Bull. 1:29-47.

Harkness, H.W.; Moore, J.P. 1880. Catalogue of the Pacific coast fungi. Calif. Acad. Sci., Feb. 2, 1880. 27 p.

Hart, J.H.; Mosher, D.G.; Ajewole, R. 1978. Occurrence of *Endocronartium harknessii* and *Cronartium quercuum* on Scots and jack pines in Michigan's Lower Peninsula. Plant Dis. Rep. 62:779-782.

Hawksworth, F.G. 1964. Diseases of lodgepole pine. Pages 125-127 *in* Proc. Soc. Am. For. 1964.

Hedgcock, G.G. 1911. Notes on *Peridermium cerebrum* Peck. and *Peridermium harknessii* J.P. Moore. Phytopathology 1:131-132.

Hedgcock, G.G. 1912. Notes on some western Uredineae which attack forest trees. Mycologia 4:131-147.

Hedgcock, G.G. 1913. Notes on some western Uredineae which attack forest trees. II. Phytopathology 3:15-17.

Hedgcock, G.G. 1927. A study of *Cronartium cerebrum* and rusts from California related to it. USDA For. Serv., Intermt. For. Range Exp. Stn., For. Sci. Lab. Logan, Utah. 90 p.

Hedgcock, G.G. 1930. Morphology and parasitism of *Cronatium cerebrum*, *Cronartium californicum* n. sp., *Uredoquercies*, *Peridermium harknessii*, and *Peridermium cerebroides*. USDA For. Serv., Intermt. For. Range Exp. Stn., For. Sci. Lab. Logan, Utah. 90 p.

Hedgcock, G.G. 1941. A comparative study of *Cronartium harknessii*, *Cronartium filamentosum*, *Cronartium stalactiforme*, *Cronartium meinecke*, and *Peridermium cerebroides*. USDA For. Serv., Intermt. For. Range Exp. Stn., For. Sci. Lab. Logan, Utah. 67 p.

Hedgcock, G.G.; Hahn, G.G. 1922. Nuclear phenomena in galls of *Peridermium cerebrum* and *Peridermium harknessii* from aecial inoculations. USDA For. Serv., Intermt. For. Range Exp. Stn., For. Sci. Lab. Logan, Utah. Meeting Bot. Soc. Am. 2 p.

Hedgcock, G.G.; Hunt, N.R. 1920. Notes on *Peridermium harknessii*. Phytopathology 10:395-397.

Henderson, D.M.; Hiratsuka, Y. 1974. Ontogeny of spore markings on

aeciospores of *Cronartium comandrae* and peridermoid teliospores of *Endocronartium harknessii*. Can. J. Bot. 52:1919-1921.

Hildreth, S.C. 1969. Pine susceptibility to western gall rust. M.Sc. thesis, Colo. State Univ. 78 p.

Hinds, T.E.; Peterson, R.S. 1966. Antibiotic tests on western gall rust and aspen cankers. Plant Dis. Rep. 50:741-744.

Hiratsuka, Y. 1969. *Endocronartium*, a new genus for autoecious pine stem rusts. Can. J. Bot. 47:1493-1495.

Hiratsuka, Y. 1971. Spore surface morphology of pine stem rusts of Canada as observed under a scanning electron microscope. Can. J. Bot. 49:371-372.

Hiratsuka, Y. 1973a. Nuclear cycle, taxonomy and nomenclature of autoecious pine stem rusts in North America and Europe. Rep. Tottori Mycol. Inst. 10:243-248.

Hiratsuka, Y. 1973b. The nuclear cycle and the terminology of spore states in Uredinales. Mycologia 65:432-443.

Hiratuska, Y. 1974. *Peridermium* (nom. cons. prop.). Taxon 23:253-254.

Hiratsuka, Y. 1979. Western gall rust (*Endocronartium harknessii*) and its hyperparasites in western Canada (pines). Pages 111-114 *in* Proc. Annu. West. Int. For. Dis. Work Conf., USDA For. Serv., Rocky Mt. For. Range Exp. Stn. 1979.

Hiratsuka, Y. 1981a. Host relationship, life cycle, and species concept of *Cronartium* and *Endocronartium*. Proc. XVII IUFRO World Congress, Kyoto, Japan.

Hiratsuka, Y. 1981b. Western gall rust infections of nursery origin on jack pine in Manitoba. Environ. Can., Can. For. Serv., North. For. Res. Cent. Edmonton, Alberta. For. Manage. Note 5.

Hiratsuka, Y.; Allen, E. 1980. Pine stem rust survey at the Pine Ridge Tree Nursery, Smoky Lake, Alberta. Environ. Can., Can. For. Serv., North. For. Res. Cent. Edmonton, Alberta. File report, project NOR-35.

Hiratsuka, Y.; Maruyama, P.J. 1968. Identification of *Peridermium harknessii* in eastern Canada on the basis of nuclear condition of aeciospore germ tubes. Plant Dis. Rep. 52:850-851.

Hiratsuka, Y.; Maruyama, P.J. 1983. Resistant reactions of two Asian pines to western gall rust, *Endrocronartium harknessii*. Abstr. in Phytopathology 73:835.

Hiratsuka, Y.; Morf, W.; Powell, J.M. 1966. Cytology of the aeciospores and aeciospore germ tubes of *Peridermium harknessii* and *P. stalactiforme* of the *Cronartium coleosporioides* complex. Can. J. Bot. 44:1639-1643.

Hiratsuka, Y.; Powell, J.M. 1976. Pine stem rusts of Canada. Environ. Can., Can. For. Serv., North. For. Res. Cent. Edmonton, Alberta. For. Tech. Rep. 4. 103 p.

Hiratsuka, Y.; Tsuneda, A.; Sigler, L. 1979. Occurrence of *Scytalidium uredinicola* on *Endocronartium harknessii* in Alberta, Canada. Plant Dis. Rep. 63:512-513.

Huber, R.F. 1980. An attempt to control western gall rust using fungicides. Environ. Can., Can. For. Serv., North. For. Res. Cent. Edmonton, Alberta. File Rep. NOR-10-039. 4 p.

Hutchinson, W.G. 1933. Studies of the resistance of scotch pine, *Pinus*

sylvestris L., to a gall-forming *Peridermium*. Ph.D. thesis, Univ. Penn.

Hutchinson, W.G. 1935. Resistance of *Pinus sylvestris* to a gall forming *Peridermium*. Phytopathology 25:819-843.

Ito, K. 1955. Gall rust of pine. For. Prot. News 4:106-110.

Kinloch, B.B., Jr. 1971. Genetic variation in resistance to *Cronartium* and *Peridermium* rusts in hard pines. Pages 445-463 *in* Proc. Adv. Study Inst. Biology of rust resistance in forest trees. USDA For. Serv., Misc. Publ. 1221.

Kistler, B.R.; Merrill, W. 1978. Seasonal development and control of pine-pine gall rust (*Endocronartium harknessii*). Am. Christmas Tree J. 22:21-23.

Krebill, R.G. 1968. Histology of canker rusts in pines. Phytopathology 58:155-164.

Krebill, R.G. 1970. Autoecious gall rusts of pines in southern Michigan and New York. Plant Dis. Rep. 54:853-855.

Krohn, R.F. 1971. Correspondence regarding the importance of gall rust and Monterey pine. Farm Advisor, Agric. Ext. Serv., Univ. Calif., Berkeley, Calif.

Kuhlman, E.G.; Carmichael, J.W.; Miller, T. 1976. *Scytalidium uredinicola*, a new mycoparasite of *Cronartium fusiforme* on *Pinus*. Mycologia 68:1188-1203.

Laundon, G.F. 1976. *Peridermium* (Fungi). Taxon 25:186-187.

Lavallée, A.; Bard, G. 1973. Observations sur deux rouilles-tumeurs du pin gris. Can. J. For. Res. 3:251-255.

Leaphart, C.D. 1955. Preliminary observations on a current outbreak of western gall rust (*Cronartium coleosporioides*). Plant Dis. Rep. 39:314-315.

Leaphart, C.D. 1963. Summary of treatments with antibiotics for control of native rusts (*C. comandrae*, *P. filamentosum*, *P. harknessii*, and *P. stalactiforme*). USDA For. Serv., Intermt. For. Range Exp. Stn., For. Sci. Lab. Logan, Utah. 7 p.

Lightle, P.C. 1955. Longevity of *Peridermium harknessii* aeciospores stored at 40°F. Plant Dis. Rep. 39:983-984.

Lorbeer, J.W. 1955. Several aspects of the pathology of *Peridermium harknessii* J.P. Moore. M.Sc. thesis, Univ. Wash., Seattle, Wash. 61 p.

Lowe, D.P.; Ziller, W.G. 1977. Stem rusts of pine in western Canada. Environ. Can., Can. For. Serv., Pac. For. Res. Cent. Victoria, B.C. Pest Leafl. 37. 19 p.

Martinsson, O. 1980a. Impact of western gall rust in natural stands of lodgepole pine. Proc. Works. Genetics of host-parasite interactions in forestry. Sept. 14-21, 1980, Wageningen, Netherlands.

Martinsson, O. 1980b. Stem rusts in lodgepole pine provenance trials. Silvae Genet. 29:23-26.

McGrath, W.T. 1967. Infection of jack pine in Wisconsin by *Cronartium quercuum* and *Peridermium harknessii*. Ph.D. thesis, Univ. Wis. Madison, Wis. 642 p.

McGrath, W.T.; Patton, R.F. 1969. The range of western gall rust in Wisconsin. Plant. Dis. Rep. 53:357-359.

McKenzie, M.A. 1942. Experimental autoecism and other biological studies of a gall-forming *Peridermium* on northern hard pines. Phytopathology 32:785-798.

McNabb, H.S., Jr.; Shurtleff, M.C., Jr. 1957. Notes on stem rusts of hard pines in Iowa. Iowa Acad. Sci. Proc. 64:187-188.

Meinecke, E.P. 1916a. *Peridermium harknessii* and *Cronartium quercuum*. Phytopathology 6:225- 240.

Meinecke, E.P. 1916b. *Peridermium harknessii* and *Cronartium quercuum*. Science 43:75.

Meinecke, E.P. 1920. Facultative heteroecism in *Peridermium cerebrum* and *Peridermium harknessii*. Phytopathology 10:279-297.

Meinecke, E.P. 1928. The evaluation of loss from killing diseases in the young forest. J. For. 26:283-298.

Meinecke, E.P. 1929. Experiments with repeating pine rusts. Phytopathology 19:327-342.

Merrill, W. 1972. Occurrence of *Endocronartium harknessii* in Pennsylvania. Plant Dis. Rep. 56:1058.

Merrill, W.; Kistler, B.R. 1975. Pine-to-pine gall rust (*Endocronartium harknessii*) threat to scotch pines. Sci. Agric. 22:4-5.

Merrill, W.; Kistler, B.R. 1976a. Phenology and control of *Endocronartium harknessii* in Pennsylvania. Phytopathology 66:1246-1248.

Merrill, W.; Kistler, B.R. 1976b. Pine-pine gall rust: *Endocronartium harknessii*. Penn. Dep. Agric., Bur. Indust. Plant Pathol. Circ. 7. 2 p.

Metcalf, H. 1930. The Woodgate rust. Calif. Dep. Agric., Mon. Bull. 19:496-497.

Meyer, T.R.; Walla, J.A.; Stack, R.W. 1982. Wave year infection of shelterbelt pines in North Dakota by *Endocronartium harknessii*. Phytopathology 72:979.

Mielke, J.L.; Cochran, G.W. 1952. Differences in spore surface markings of three pine rusts, as shown by the electron microscope. Mycologia 44:325-329.

Mielke, J.L.; Peterson, R.S. 1967. Albino *Peridermium harknessii* in ponderosa pine. Plant Dis. Rep. 51:306-309.

Nelson, D.L. 1970. Ecology and pathology of pine gall rust in California. Ph.D. thesis, Univ. Calif., Berkeley, Calif.

Nelson, D.L.; Cobb, F.W.; Parmeter, J.R. 1973. Susceptibility of southeastern hard pines to gall rust from California. 2nd Int. Congr. Plant Pathol. Minneapolis, Minn.

Offord, H.R. 1961. Forest diseases in California. USDA For. Serv., Pac. South West For. Range Exp. Stn. Tech. Pap. 60. 29 p.

Offord, H.R. 1964. Diseases of Monterey pine in native stands of California and plantations of western North America. USDA For. Serv. Res. Pap. PSW-14. 37 p.

Parmeter, J.R., Jr.; Newhook, F.J. 1967. New Zealand *Pinus radiata* is susceptible to western gall rust disease. N.Z. J. For. 12:200-201.

Peterson, G.W. 1973. Dispersal of aeciospores of *Peridermium harknessii* in central Nebraska. Phytopathology 63:170-172.

Peterson, R.S. 1959a. Geographic patterns in gall rust infestation. Pages 48-51 *in* 7th West. Int. For. Dis. Work Conf., Pullman, Wash. Dec. 1959.

Peterson, R.S. 1959b. Pine gall rust in the Rocky Mountains. Ph.D. thesis, Univ. Mich. 111 p.

Peterson, R.S. 1959c. The *Cronartium coleosporioides* complex in the Black Hills. Plant Dis. Rep. 43:1227-1228.

Peterson, R.S. 1960a. Development of western gall rust in lodgepole pine. Phytopathology 50:876-881.

Peterson, R.S. 1960b. Western gall rust on hard pines. USDA For. Serv., For. Pest Leafl. 50. 8 p.

Peterson, R.S. 1961a. Conifer tumors in the central Rocky Mountains. Plant Dis. Rep. 45:472-474.

Peterson, R.S. 1961b. Western gall rust cankers in lodgepole pine. J. For. 59:194-196.

Peterson, R.S. 1962. Notes on western rust fungi. III. *Cronartium*. Mycologia 54:678-684.

Peterson, R.S. 1967. The *Peridermium* species on pine stems. Bull. Torrey Bot. Club 94:511-542.

Peterson, R.S. 1971. Wave years of infection by western gall rust on pines. Plant Dis. Rep. 55:163-167.

Peterson, R.S. 1973. Studies of *Cronartium* (Uredinales). Rep. Tottori Mycol. Inst. 10:203-223.

Peterson, R.S.; Jewell, F.F. 1968. Status of American stem rusts of pine. Annu. Rev. Phytopathol. 6:23-40.

Peterson, R.S.; Reid, R.A. 1977. Epidemiology of western gall rust in ponderosa pine provenance plantings in south central Nebraska. Proc. Am. Phytopathol. Soc. 4:110.

Pickard, M.A.; Fairbairn, N.; Hiratsuka, Y. 1983. Inhibition of *Endocronartium harknessii* spore germination by metabolities of *Scytalidium uredinicola* and *S. album*, and the influence of growth medium on inhibitor production. Can. J. Bot. 61:2147-2152.

Pomerleau, R. 1962. The spherical gall rust of jack pine. Mycologia 34:120-122.

Powell, J.M. 1971a. Additional records of *Mycodiplosis* larvae (Diptera: Cecidomyiidae) feeding on rust fungi. Can. Plant Dis. Surv. 51:86-87.

Powell, J.M. 1971b. Occurrence of *Tuberculina maxima* on pine stem rusts in western Canada. Can. Plant Dis. Surv. 51:83-85.

Powell, J.M. 1972. Additional collection of *Tuberculina maxima* on pine stem rusts in western Canada. Can. Plant. Dis. Surv. 52:139.

Powell, J.M. 1975. Additional note on the incidence of *Cronartium coleosporioides* f. *album* on lodgepole pine. Plant Dis. Rep. 59:32-34.

Powell, J.M. 1982. Rodent and lagomorph damage to pine stem rusts, with special mention of studies in Alberta. Can. Field-Nat. 96:287-294.

Powell, J.M.; Hiratsuka, Y. 1973. Serious damage caused by stalactiform blister rust and western gall rust to a lodgepole pine plantation in central Alberta. Can. Plant Dis. Surv. 53:67-71.

Powell, J.M.; Morf, W. 1966. Temperature and pH requirements for aeciospore germination of *Peridermium stalactiforme* and *P. harknessii* of the *Cronartium coleosporioides* complex. Can. J. Bot. 44:1597-1606.

Powell, J.M.; Wong, H.R.; Melvin, J.C.E. 1972. Arthropods collected from

stem rusts cankers of hard pines in western Canada. Environ. Can., Can. For. Serv., North. For. Res. Cent. Edmonton, Alberta. Inf. Rep. NOR-X-42. 19 p.

Quick, C.R. 1962. Western gall rust (*Peridermium harknessii* Moore). Pages 92-93 *in* Proc. 10th West. Int. For. Dis. Work Conf., Victoria, B.C. Oct. 15-19, 1962.

Quick, C.R. 1966. Experimental inoculation of ponderosa pine with western gall rust. Plant Dis. Rep. 50:550-552.

Rhoads, A.S.; Hedgcock, G.G.; Bethel, E.; Hartley, C. 1918. Host relationship of the North American rusts, other than gymnosporangiums, which attack conifers. Phytopathology 8:309-352.

Roll-Hansen, F. 1978. Fungi dangerous to *Pinus contorta* with special reference to pathogens from North Europe. Eur. J. For. Pathol. 8:1-14.

Skelly, J.M. 1976. Western gall rust found in Virginia. Plant Dis Rep. 60:222-223.

Smith, R.S., Jr. 1975. Western gall rust - *Peridermium harknessii* J.P. Moore. Pages 56-58 *in* Forest nursery diseases in the United States. USDA Agric. Handb. 470.

Stewart, A. 1916. Notes on the anatomy of *Peridermium* galls. Am. J. Bot. 3:12-22.

Thomas, C.S.; Hart, J.H. 1983. Severity of *Endocronartium harknessii* on *Pinus ponderosa*. Abstr. in Phytopathology 73:838.

True, R. 1938. Gall development on *Pinus sylvestris* attacked by the Woodgate *Peridermium* and morphology of the parasite. Phytopathology 28:24-50.

Tsuneda, A.; Hiratsuka, Y. 1979. Mode of parasitism of a mycoparasite, *Cladosporium gallicola*, on western gall rust, *Endocronartium harknessii*. Can. J. Plant Pathol. 1:31-36.

Tsuneda, A.; Hiratsuka, Y. 1980. Parasitization of pine stem rust fungi by *Monocillium nordinii*. Phytopathology 70:1101-1103.

Tsuneda, A.; Hiratsuka, Y. 1981a. Biological control of pine stem rusts by mycoparasites. Proc. Jpn. Acad. 57 (Ser. B):337-341.

Tsuneda, A.; Hiratsuka, Y. 1981b. *Scopinella gallicola*, a new species from rust galls of *Endocronartium harknessii* on *Pinus contorta*. Can. J. Bot. 59:1192-1195.

Tsuneda, A.; Hiratsuka, Y. 1982. Commensal relationship between *Scopinella gallicola* and *Cladosporium* sp. Rep. Tottori Mycol. Inst. 20:63-69.

Tsuneda, A.; Hiratsuka, Y.; Maruyama, P.J. 1980. Hyperparasitism of *Scytalidium uredinicola* on western gall rust *Endocronartium harknessii*. Can. J. Bot. 58:1154-1159.

Underwood, L.M.; Earle, F.S. 1896. Notes on the pine-inhabiting species of *Peridermium*. Bull. Torrey Bot. Club 23:400-405.

Van der Kamp, B.J. 1981. The incidence and impact of western gall rust, stalactiform rust, and atropellis canker in managed stands of lodgepole pine of interior B.C. B.C. Min. For., Res. Branch, Victoria, B.C. 56 p.

Van Sickle, G.A.; Newell, W.R. 1968. The occurrence of *Peridermium harknessii* of the *Cronartium coleosporioides* complex confirmed in the Maritime Provinces. Plant Dis. Rep. 52:455-458.

Wagener, W.W. 1958a. Infection tests with two rusts of jeffrey pine. Plant Dis. Rep. 42:888-892.

Wagener, W.W. 1958b. The question of heteroecism in some western tree rusts. Pages 41-46 *in* Proc. 6th West. Intl. For. Dis. Work Conf., Vancouver, B.C.

Wagener, W.W. 1964. "Facultative heteroecism". Was it demonstrated in *Peridermium harknessii* in 1919-1920? Mycologia 56:782-785.

Walla, J.A.; Stack, R.W. 1979a. Western gall rust in North Dakota. Plant Dis. Rep. 63:432-433.

Walla, J.A.; Stack, R.W. 1979b. Western gall rust in shelterbelts on the Northern Plains. Abstr. in Phytopathology 69:543-544.

Weir, J.R. 1928. Stem rusts occurring on pines in the United States with particular reference to the Northwest. USDA For. Serv., Intermt. For. Range Exp. Stn., For. Sci. Lab. Logan, Utah. Off. Rep. 1474. 79 p.

Weir, J.R.; Hubert, E.E. 1917a. Pycnial stages of important forest tree rusts. Phytopathology 7:135-139.

Weir, J.R.; Hubert, E.E. 1917b. Recent cultures of forest tree rusts. Phytopathology 7:106-109.

Wollenweber, H.W. 1934. *Fusarium bactridioides* sp. nov., associated with *Cronartium*. Science 79:572.

Wong, H.R. 1972. *Dioryctria banksiella* (Lepidoptera: Pyralidae) in the western gall rust, *Endocronartium harknessii* (Basidiomycetes: Uredinales). Can. Entomol. 104:251-255.

York, H.H. 1926a. A *Peridermium* new to the northeastern United States. Science 64:500-501.

York, H.H. 1926b. New gall rust disease may be menace to pines. USDA For. Serv., Off. Rec. 5:5, 102.

York, H.H. 1928. The Woodgate rust. Proc. Annu. Blister Rust Control Conf. 14:101-104.

York, H.H. 1929. The Woodgate rust. J. Econ. Entomol. 22:482-485.

York, H.H. 1931. The Woodgate rust. West. Blister Rust Newsl. 6.

York, H.H. 1938. Inoculations with forest tree rusts. Phytopathology 28:210-212.

Zagory, D. 1979. Effect of western gall rust, *Endocronartium harknessii*, on height growth of *Pinus radiata*. Phytopathology 69:1049.

Zalasky, H. 1976. Xylem in galls of lodgepole pine caused by *Endocronartium harknessii*. Can. J. Bot. 54:1586-1590.

Zalasky, H.; Riley, C.G. 1963. Infection tests with two caulicolous rusts of jack pine in Saskatchewan. Can. J. Bot. 41:459-465.

Ziller, W.G. 1963. Western gall rust (Woodgate rust). Pages 101-103 *in* Internationally dangerous forest tree diseases. USDA For. Serv., Misc. Publ. 939.

Ziller, W.G. 1967. Western gall rust, *Peridermium harknessii* J.P. Moore. Pages 53-54 *in* Important forest insects and diseases of mutual concern to Canada, United States, and Mexico. Can. Dep. For. Rural Dev., Publ. 1180.

Ziller, W.G. 1969. The tree rusts of western Canada -- annotated lists with keys. Environ. Can., Can. For. Serv., Pac. For. Res. Cent. Victoria, B.C. Inf. Rep. BC-X-34. 24 p.

Ziller, W.G. 1970. Studies of western tree rusts. VII. Inoculation experiments with pine stem rusts (*Cronartium* and *Endocronartium*). Can. J. Bot. 48:1313-1319.

Ziller, W.G. 1974. The tree rusts of western Canada. Environ. Can., Can. For. Serv., Pac. For. Res. Cent. Victoria, B.C. Publ. 1392. 272 p.

ACKNOWLEDGMENTS

The authors would like to thank P. Blenis and J.M. Powell for their assistance in preparing this document.